BONANZA CREEK

410 17th Street, Suite 1400
Denver, CO 80202
(720) 440-6100 phone
(720) 305-0804 fax

Bonanzacrk.com

October 30, 2018

Sent via Courier

US EPA Region 8
Mail Code: 8ENF-AT
Office of Enforcement, Compliance and Environmental Justice
Director, Air and Toxics Technical Enforcement Program
1595 Wynkoop St.
Denver, CO 80202-1129

RE: 40 CFR Part 60 Subpart OOOOa Annual Report
Reporting Period: 8/2/17-8/2/18
Bonanza Creek Energy Operating Company, LLC

Dear Director,

Bonanza Creek Energy Operating Company, LLC (BCEOC) is herein submitting the annual report for 40 CFR Part 60 Subpart OOOOa as required by §60.5420a for our affected facilities in Colorado for the reporting period 8/2/17 – 8/2/18. Please note BCEOC is reporting on the following OOOOa affected facility types: wells, reciprocating compressors, pneumatic pumps, and fugitive emissions located at well sites, well production facilities, and compressor stations.

State Seventy Holes J-18 was sold during the reporting period on 4/30/18. We have included this facility in this report.

Please do not hesitate to call me at (720) 225-6651 if you have any questions or need additional information.

Sincerely,

(b) (6) [redacted]

Matthew Cannizzaro
Environmental Engineer, Compliance Systems

NSPS OOOOa Annual Report

Pursuant to 40 CFR § 60.5420a(b)

ver. 11.05.14

Company Information

§60.5420a(b)(1)

Company Name:	Bonanza Creek Energy Operating Company, LLC

Company Mailing Address:	Street Address	City	State	Zip Code
	410 17th Street, Suite 1400	Denver	CO	80202

For information regarding this report please contact the following:

Contact Name:	Matthew Cannizzaro
Contact Phone Number:	(720) 225-6651
Contact Email Address:	mcannizzaro@bonanzacrk.com

Reporting Period

Compliance Period Start Date:	8/2/2017
Compliance Period End Date:	8/2/2018
Date Report Submitted:	10/30/18

Certification By a Responsible Official

Statement of Certification: Based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate and complete.

Name of Certifying Official:	Dean Tinsley
Title of Certifying Official:	Senior VP, Operations, Operations Management
Email Address:	DTinsley@bonanzacrk.com
Phone Number:	720-440-6132
Signature:	(b) (6) [redacted]
Signature Date:	10/29/18

List of Affected Facilities

§60.5420a(b)

API Number	Physical location name	Equipment ID /Well Name	Affected Facility Type(s) *(Place an 'X' in Every Column That Applies, or Identify Other Facility Type)*							
			Well	Storage Vessel	Reciprocating Compressor	Centrifugal Compressor	Pneumatics	Pump	Fugitives	Other (Please Identify)
	Antelope CPF 13-21	E-08 GLE			X					
	Antelope CPF 13-21	E-10 Dual			X					
	Antelope CPF 13-21	E-11 Dual			X					
	Antelope CPF 13-21	Fugitives							X	
	Antelope CPF 13-21	(Removed) GLE E-06			X					
	Antelope J-21	Fugitives							X	
051234197400	Antelope J-21	State Antelope 21-24-28HNB	X							
051234269600	Antelope J-21	State Antelope 24-21-16XRLNC	X							
051234198100	Antelope J-21	State Antelope F21-J24-28HNC	X							
051234198400	Antelope J-21	State Antelope K21-O24-28HNC	X							
051234197700	Antelope J-21	State Antelope K31-O34-28HNC	X							
051234197300	Antelope J-21	State Antelope K-O-28HNB	X							
051234269700	Antelope J-21	State Antelope O34-21-16XRLNB	X							
	Antelope Section 19 CS	CLE E-10			X					
	Antelope Section 19 CS	CLE E-11			X					
	Antelope Section 19 CS	CLE E-12			X					
	Antelope Section 19 CS	Fugitives							X	
051234276400	Antelope T-21	Antelope T34-P31-21HNC	X							
	Antelope T-21	Fugitives							X	
051234276600	Antelope T-21	State Antelope 41-44-28HNB	X							
051234276500	Antelope T-21	State Antelope 44-21-16XRLNB	X							
	Longhorn 14-11	Fugitives							X	
051234508600	Longhorn 14-11	State Longhorn D14-11-12XRLNB	X							
051234470300	Longhorn U-10	Longhorn V41-10-9XRLNB	X							
	Mustang 12-26	Fugitives							X	
051234580400	Mustang 12-26	Mustang V41-27-28XRLNB	X							
	Mustang 14-26	Fugitives							X	
051234470000	Mustang 14-26	Mustang D14-26-25XRLNB	X							
	Mustang 42-34	Fugitives							X	
051234600100	Mustang 42-34	Mustang V41-34-33XRLNB	X							
	Mustang 44-22	Fugitives							X	
051234470400	Mustang 44-22	Mustang X44-22-21XRLNB	X							
	Mustang U-22	Fugitives							X	
051234580300	Mustang U-22	Mustang B11-23-24XRLNB	X							
051234470200	Mustang Y-34	Longhorn V41-3-4XRLNB	X							
	North Platte 44-13	Fugitives							X	
051234248200	North Platte 44-13	North Platte T34-P31-13HNB	X							
051234248300	North Platte 44-13	North Platte T44-P41-13HC	X							
051234247900	North Platte 44-13	North Platte Y44-U41-13HNC	X							
051234248000	North Platte 44-13	North Platte Y-U-13HNB	X							

List of Affected Facilities

§60.5420a(b)

API Number	Physical location name	Equipment ID /Well Name	Affected Facility Type(s) *(Place an 'X' in Every Column That Applies, or Identify Other Facility Type)*							
			Well	Storage Vessel	Reciprocating Compressor	Centrifugal Compressor	Pneumatics	Pump	Fugitives	Other (Please Identify)
	North Platte K-22	Fugitives							X	
051234350200	North Platte K-22	North Platte Federal 21-24-22HC	X							
051234349900	North Platte K-22	North Platte Federal 31-34-22HNB	X							
051234350000	North Platte K-22	North Platte Federal K21-O24-22HNC	X							
051234349800	North Platte K-22	North Platte Federal K31-O34-22HNC	X							
051234350100	North Platte K-22	North Platte Federal P31-T34-22HC	X							
	North Platte T-27	Fugitives							X	
051234188300	North Platte T-27	North Platte 21-24-34HNB	X							
051234176500	North Platte T-27	North Platte 31-34-34HNC	X							
051234188500	North Platte T-27	North Platte K21-O24-34HC	X							
051234188600	North Platte T-27	North Platte K21-O24-34HNC	X							
051234188700	North Platte T-27	North Platte K31-O34-34HNB	X							
051234181700	North Platte T-27	North Platte P31-T34-34HC	X							
051234210800	North Platte T-27	North Platte P31-T34-34HNB	X							
	Pronghorn 24-7 Booster Station	CLE E-11			X					
	Pronghorn 24-7 Booster Station	CLE E-12			X					
	Pronghorn D-28	Fugitives							X	
051234121600	Pronghorn D-28	Pronghorn 13-43-28HNC	X							
051234121500	Pronghorn D-28	Pronghorn 14-44-28HNC	X							
051234121800	Pronghorn D-28	Pronghorn C13-W43-28HNB	X							
051234122100	Pronghorn D-28	Pronghorn C-W-28HNC	X							
051234121900	Pronghorn D-28	Pronghorn D13-X43-28HNB	X							
051234121400	Pronghorn D-28	Pronghorn D14-X44-28HNB	X							
051234121700	Pronghorn D-28	Pronghorn D-X-28HNC	X							
	Pronghorn F-22	Fugitives							X	
051233954700	Pronghorn F-22	Pronghorn 11-14-22HNB	X							
051234220400	Pronghorn F-22	Pronghorn A-E-22HNB	X							
051233954800	Pronghorn F-22	Pronghorn F-J-22HNB	X							
	Seventy Holes 24-5	P-01						X		
	Seventy Holes J-F-5HZ	P-02 AOS						X		
	State Antelope 11-13HZ	P-01						X		
	State Antelope 11-14-1HZ	P-01						X		
	State Antelope 11-14-1HZ	P-02						X		
	State Antelope 14-24	P-03						X		
	State Antelope CPF O-1	(Removed) GLE E-04			X					
	State Antelope CPF O-1	GLE E-06			X					
	State North Platte CPF 42-26	C-2703			X					
	State North Platte CPF 42-26	C-2705			X					
	State North Platte CPF 42-26	Fugitives							X	
	State North Platte F-26	Fugitives							X	

List of Affected Facilities

§60.5420a(b)

API Number	Physical location name	Equipment ID /Well Name	Affected Facility Type(s) *(Place an 'X' in Every Column That Applies, or Identify Other Facility Type)*							
			Well	Storage Vessel	Reciprocating Compressor	Centrifugal Compressor	Pneumatics	Pump	Fugitives	Other (Please Identify)
051234443800	State North Platte F-26	North Platte 24-21-23HNC	X							
051234509700	State North Platte F-26	North Platte E14-A11-23HNB	X							
051234443500	State North Platte F-26	North Platte E-A-23HNC	X							
051234443400	State North Platte F-26	North Platte J14-F11-23HC	X							
051234443600	State North Platte F-26	North Platte J-F-23HNB	X							
051234443700	State North Platte F-26	North Platte O24-K21-23HNB	X							
051234448600	State North Platte F-26	State North Platte A11-E14-26HNC	X							
051234448500	State North Platte F-26	State North Platte A-E-26HNB	X							
	State Pronghorn CPF 41-32	E-11 CLE			X					
	State Pronghorn CPF 41-32	E-12 CLE			X					
	State Pronghorn CPF 41-32	Fugitives							X	
	State Pronghorn V-32	Fugitives							X	
051234235200	State Pronghorn V-32	State Pronghorn 41-32-31MRLNB	X							
051234235000	State Pronghorn V-32	State Pronghorn 42-32-31MRLNB	X							
051234235300	State Pronghorn V-32	State Pronghorn V-32-31MRLNB	X							
051234235100	State Pronghorn V-32	State Pronghorn W-32-31MRLNB	X							
	State Seventy Holes J-18	Fugitives							X	
051234161400	State Seventy Holes J-18	State Seventy Holes J-18	X							

Well Affected Facilities §60.5420a(b)(2)						Well Affected Facilities §60.5420a(b)(2)									
API Number	Physical location name	Well Name	Lat. (Nad 83)	Long. (Nad 83)	Potential Deviations To Report? (If Deviations Other Than Post Separation Venting Occurred Put an 'X'. If not leave blank)	Date and time of Onset of Flowback Following Hydraulic Fracturing or Refracturing (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Date and time of Each Attempt to Direct Flowback to a Separator (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Date and time of Each Occurrence of Returning to the Initial Flowback Stage (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Date and Time Well Shut In and Flowback Equipment Permanently Disconnected or the Startup of Production (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Duration of Flowback in Hours (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Duration of Recovery in Hours (Not Required for Wells Complying with §60.5375a(f)) (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A))	Disposition of Recovery (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Duration of Combustion in Hours (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Duration of Post Seperation Venting in Hours (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Reason for Venting in lieu of Capture or Combustion (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))
051234197400	Antelope J-21	State Antelope 21-24-28HNB	(b) (9)			1/22/16 2:25 PM	1/25/16 7:02 PM	N/A	1/29/16 12:35 PM	166.2	79.4	Gas sent to sales	10.2	0	N/A
051234198100	Antelope J-21	State Antelope F21-J24-28HNC				1/22/16 7:30 AM	1/26/16 6:30 PM	N/A	1/29/16 3:40 PM	176.2	69.2	Gas sent to sales	0.0	0	N/A
051234197300	Antelope J-21	State Antelope K-O-28HNB				1/19/16 10:00 AM	1/26/16 11:05 AM	N/A	1/30/16 9:35 AM	263.6	94.5	Gas sent to sales	0.0	0	N/A
051234198400	Antelope J-21	State Antelope K21-O24-28HNC				1/20/16 2:00 PM	1/27/16 3:00 PM	N/A	1/30/16 12:00 PM	238.0	69.0	Gas sent to sales	0.0	0	N/A
051234197700	Antelope J-21	State Antelope K31-O34-28HNC				1/18/16 4:00 AM	1/28/16 11:00 AM	N/A	1/30/16 11:00 AM	295.0	48.0	Gas sent to sales	0.0	0	N/A
051234248200	North Platte 44-13	North Platte T34-P31-13HNB				7/1/17 8:40 PM	7/3/17 3:30 PM	N/A	7/3/17 3:30 PM	42.8	0.0	Gas sent Directly to sales	0.0	0	N/A
051234248300	North Platte 44-13	North Platte T44-P41-13HC				6/30/17 3:50 PM	7/5/17 11:00 AM	N/A	7/5/17 11:00 AM	115.2	0.0	Gas sent Directly to sales	0.0	0	N/A
051234248000	North Platte 44-13	North Platte Y-U-13HNB				6/28/17 5:30 PM	7/1/17 11:00 AM	N/A	7/1/17 11:00 AM	65.5	0.0	Gas sent Directly to sales	0.0	0	N/A
051234247900	North Platte 44-13	North Platte Y44-U41-13HNC				6/29/17 3:00 PM	7/5/17 11:00 AM	N/A	7/5/17 11:00 AM	140.0	0.0	Gas sent Directly to sales	0.0	0	N/A
051234188300	North Platte T-27	North Platte 21-24-34HNB				11/11/15 10:00 AM	11/17/15 3:35 PM	N/A	12/4/15 8:30 AM	550.5	331.5	Gas sent to sales	69.4	0	N/A
051234176500	North Platte T-27	North Platte 31-34-34HNC				11/16/15 2:25 PM	11/19/15 12:30 AM	N/A	12/4/15 8:20 AM	425.9	330.8	Gas sent to sales	37.0	0	N/A
051234188500	North Platte T-27	North Platte K21-O24-34HC				11/12/15 2:00 PM	11/17/15 3:50 PM	N/A	12/4/15 8:30 AM	522.5	395.6	Gas sent to sales	5.0	0	N/A
051234188600	North Platte T-27	North Platte K21-O24-34HNC				11/13/15 2:15 PM	11/17/15 3:45 PM	N/A	12/4/15 8:30 AM	498.2	331.5	Gas sent to sales	69.2	0	N/A
051234188700	North Platte T-27	North Platte K31-O34-34HNB				11/14/15 2:15 PM	11/17/15 4:00 PM	N/A	12/4/15 8:30 AM	474.2	331.5	Gas sent to sales	69.0	0	N/A
051234181700	North Platte T-27	North Platte P31-T34-34HC				11/18/15 3:00 PM	11/21/15 5:00 AM	N/A	12/4/15 8:20 AM	377.3	315.3	Gas sent to sales	0.0	0	N/A
051234210800	North Platte T-27	North Platte P31-T34-34HNB				11/19/15 2:00 PM	11/20/15 9:20 AM	N/A	12/4/15 8:20 AM	354.3	315.3	Gas sent to sales	19.7	0	N/A
051234121600	Pronghorn D-28	Pronghorn 13-43-28HNC				10/6/15 1:00 PM	10/16/15 4:16 AM	N/A	11/6/15 2:40 PM	745.7	375.7	Gas sent to sales	138.7	0	N/A
051234121500	Pronghorn D-28	Pronghorn 14-44-28HNC				10/1/15 4:00 PM	10/19/15 5:00 PM	N/A	11/4/15 2:40 PM	814.7	328.4	Gas sent to sales	53.2	0	N/A
051234122100	Pronghorn D-28	Pronghorn C-W-28HNC				10/1/15 3:30 PM	10/15/15 6:25 AM	N/A	11/6/15 11:30 AM	860.0	373.3	Gas sent to sales	159.8	0	N/A
051234121800	Pronghorn D-28	Pronghorn C13-W43-28HNB				10/1/15 3:45 PM	10/10/15 1:20 PM	N/A	11/6/15 11:30 AM	859.7	373.5	Gas sent to sales	272.7	0	N/A
051234121700	Pronghorn D-28	Pronghorn D-X-28HNC				10/2/15 2:00 PM	10/15/15 11:40 PM	N/A	11/6/15 3:30 PM	841.5	376.5	Gas sent to sales	143.3	0	N/A
051234121900	Pronghorn D-28	Pronghorn D13-X43-28HNB				10/5/15 2:00 PM	10/10/15 11:00 PM	N/A	11/6/15 3:30 PM	769.5	377.0	Gas sent to sales	263.5	0	N/A
051234121400	Pronghorn D-28	Pronghorn D14-X44-28HNB				10/1/15 3:55 AM	10/13/15 7:00 PM	N/A	11/6/15 2:00 PM	874.1	375.8	Gas sent to sales	195.3	0	N/A
051233954700	Pronghorn F-22	Pronghorn 11-14-22HNB				3/10/16 2:00 PM	3/11/16 11:45 AM	N/A	3/24/16 9:40 AM	331.7	262.7	Gas sent to sales	47.3	0	N/A
051234220400	Pronghorn F-22	Pronghorn A-E-22HNB				3/8/16 11:00 AM	3/15/16 4:10 PM	N/A	3/24/16 9:40 AM	382.7	188.5	Gas sent to sales	21.0	0	N/A
051233954800	Pronghorn F-22	Pronghorn F-J-22HNB				3/10/16 2:30 AM	3/14/16 1:45 PM	N/A	3/24/16 10:10 AM	343.7	215.4	Gas sent to sales	21.0	0	N/A
051234235200	State Pronghorn V-32	State Pronghorn 41-32-31MRLNB				2/3/16 3:35 PM	2/11/16 10:00 AM	N/A	2/18/16 10:00 AM	354.4	158.8	Gas sent to sales	9.2	0	N/A
051234235000	State Pronghorn V-32	State Pronghorn 42-32-31MRLNB				2/5/16 1:30 AM	2/8/16 7:10 AM	N/A	2/16/16 12:00 PM	274.5	191.7	Gas sent to sales	5.2	0	N/A
051234235300	State Pronghorn V-32	State Pronghorn V-32-31MRLNB				2/4/16 1:30 PM	2/10/16 5:05 PM	N/A	2/18/16 10:00 AM	332.5	181.3	Gas sent to sales	3.6	0	N/A
051234235100	State Pronghorn V-32	State Pronghorn W-32-31MRLNB				2/5/16 11:00 PM	2/7/16 1:30 PM	N/A	2/16/16 1:00 PM	254.0	191.5	Gas sent to sales	24.0	0	N/A
051234161400	State Seventy Holes J-18	State Seventy Holes J-18				11/9/16 7:00 AM	11/30/16 11:10 AM	N/A	11/30/16 11:10 AM	508.2	0	N/A §60.5375a(a)(3)	0	0	N/A
051234269600	Antelope J-21	State Antelope 24-21-16XRLNC				10/25/17 5:45 PM	11/10/17 12:30 PM	N/A	11/10/17 12:30 PM	378.8	0	Gas sent Directly to sales	0	0	N/A
051234269700	Antelope J-21	State Antelope O34-21-16XRLNB				10/25/17 7:30 PM	11/10/17 12:01 PM	N/A	11/10/17 12:01 PM	376.5	0	Gas sent Directly to sales	0	0	N/A
051234276400	Antelope T-21	Antelope T34-P31-21HNC				10/29/17 7:25 PM	11/8/17 12:00 PM	N/A	11/8/17 12:00 PM	232.6	0	Gas sent Directly to sales	0	0	N/A
051234276600	Antelope T-21	State Antelope 41-44-28HNB				10/29/17 7:05 PM	11/1/17 1:20 PM	N/A	11/1/17 1:20 PM	66.2	0	Gas sent Directly to sales	0	0	N/A
051234276500	Antelope T-21	State Antelope 44-21-16XRLNB				10/29/17 7:20 PM	11/1/17 2:20 PM	N/A	11/1/17 2:20 PM	67.0	0	Gas sent Directly to sales	0	0	N/A
051234508600	Longhorn 14-11	State Longhorn D14-11-12XRLNB				12/27/17 4:35 PM	12/31/17 5:15 AM	N/A	1/10/18 3:15 PM	334.7	250.0	N/A §60.5375a(a)(3)	0	0	N/A
051234470300	Longhorn U-10	Longhorn V41-10-9XRLNB				6/26/18 6:30 PM	7/14/18 12:00 AM	N/A	7/14/18 12:00 AM	413.5	0.0	N/A §60.5375a(a)(3)	0	0	N/A
051234580400	Mustang 12-26	Mustang V41-27-28XRLNB				3/26/18 4:47 PM	4/19/18 4:46 PM	N/A	4/19/18 4:46 PM	576.0	0.0	N/A §60.5375a(a)(3)	0	0	N/A
051234470000	Mustang 14-26	Mustang D14-26-25XRLNB				4/9/18 5:08 AM	5/1/18 10:35 AM	N/A	5/1/18 10:35 AM	533.4	0.0	N/A §60.5375a(a)(3)	0	0	N/A
051234600100	Mustang 42-34	Mustang V41-34-33XRLNB				5/18/18 11:40 AM	5/21/18 9:00 AM	N/A	5/21/18 9:00 AM	69.3	0.0	N/A §60.5375a(a)(3)	0	0	N/A
051234470400	Mustang 44-22	Mustang X44-22-21XRLNB				3/19/18 6:15 PM	4/17/18 1:15 PM	N/A	4/17/18 1:15 PM	691.0	0.0	N/A §60.5375a(a)(3)	0	0	N/A
051234580300	Mustang U-22	Mustang B11-23-24XRLNB				4/2/18 6:00 PM	4/24/18 9:30 AM	N/A	4/24/18 9:30 AM	519.5	0.0	N/A §60.5375a(a)(3)	0	0	N/A
051234470200	Mustang Y-34	Longhorn V41-3-4XRLNB				6/4/18 6:27 PM	6/21/18 10:30 AM	N/A	6/21/18 10:30 AM	400.0	0.0	N/A §60.5375a(a)(3)	0	0	N/A
051234350200	North Platte K-22	North Platte Federal 21-24-22HC				5/29/18 5:30 PM	6/6/18 10:05 AM	N/A	6/6/18 10:05 AM	184.6	0.0	Gas sent Directly to sales	0	0	N/A
051234349900	North Platte K-22	North Platte Federal 31-34-22HNB				6/1/18 4:30 PM	6/6/18 10:40 AM	N/A	6/6/18 10:40 AM	114.2	0.0	Gas sent Directly to sales	0	0	N/A
051234350000	North Platte K-22	North Platte Federal K21-O24-22HNC				5/30/18 3:07 PM	6/8/18 9:15 AM	N/A	6/8/18 9:15 AM	210.1	0.0	Gas sent Directly to sales	0	0	N/A
051234349800	North Platte K-22	North Platte Federal K31-O34-22HNC				5/31/18 3:20 PM	6/14/18 2:00 PM	N/A	6/15/18 5:00 AM	349.7	0.0	Gas sent Directly to sales	0	0	N/A
051234350100	North Platte K-22	North Platte Federal P31-T34-22HC				6/2/18 3:45 PM	6/8/18 10:05 AM	N/A	6/8/18 10:05 AM	138.3	0.0	Gas sent Directly to sales	0	0	N/A
051234443800	State North Platte F-26	North Platte 24-21-23HNC				1/7/18 2:45 PM	1/28/18 10:30 AM	N/A	1/28/18 10:30 AM	499.7	0.0	Gas sent Directly to sales	0	0	N/A
051234443500	State North Platte F-26	North Platte E-A-23HNC				1/10/18 2:30 PM	1/27/18 10:15 AM	N/A	1/27/18 10:15 AM	403.8	0.0	Gas sent Directly to sales	0	0	N/A
051234509700	State North Platte F-26	North Platte E14-A11-23HNB				1/4/18 5:00 PM	1/20/18 9:15 AM	N/A	1/20/18 9:15 AM	376.2	0.0	Gas sent Directly to sales	0	0	N/A
051234443600	State North Platte F-26	North Platte J-F-23HNB				1/6/18 2:55 PM	1/18/18 12:30 PM	N/A	1/18/18 12:30 PM	285.6	0.0	Gas sent Directly to sales	0	0	N/A
051234443400	State North Platte F-26	North Platte J14-F11-23HC				1/3/18 4:55 PM	1/19/18 4:00 AM	N/A	1/19/18 4:00 AM	371.1	0.0	Gas sent Directly to sales	0	0	N/A
051234443700	State North Platte F-26	North Platte O24-K21-23HNB				1/8/18 2:30 PM	1/23/18 9:15 AM	N/A	1/23/18 9:15 AM	354.8	0.0	Gas sent Directly to sales	0	0	N/A
051234448500	State North Platte F-26	State North Platte A-E-26HNB				1/9/18 3:30 PM	1/18/18 12:45 PM	N/A	1/18/18 12:45 PM	213.2	0.0	Gas sent Directly to sales	0	0	N/A
051234448600	State North Platte F-26	State North Platte A11-E14-26HNC				1/5/18 3:55 PM	1/17/18 4:30 PM	N/A	1/17/18 4:30 PM	288.6	0.0	Gas sent Directly to sales	0	0	N/A

Well Affected Facilities

Exceptions Under §60.5375a(a)(3) - Technically Infeasible to Route to the Gas Flow Line or Collection System, Re-inject into a Well, Use as an Onsite Fuel Source, or Use for Another Useful Purpose Served By a Purchased Fuel or Raw Material

API Number	Physical location name	Well Name	Lat. (Ned 83) (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iv))	Long. (Ned 83) (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iv))	Specific Exception Claimed (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iv))	Starting Date for the Period the Well Operated Under the Exception (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iv))	Ending Date for the Period the Well Operated Under the Exception (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iv))	Why the Well Meets the Claimed Exception (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iv))	Name of Nearest Gathering Line (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Location of Nearest Gathering Line (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Technical Considerations Preventing Routing to this Line (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Capture, Reinjection, and Reuse Technologies Considered (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Aspects of Gas or Equipment Preventing Use of Recovered Gas as a Fuel Onsite (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Technical Considerations Preventing Use of Recovered Gas for Other Useful Purpose (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))	Additional Reasons for Technical Infeasibility (§60.5420a(b)(2)(i) and §60.5420a(c)(1)(iii)(A)-(B))
05123450860	Longhorn 14-11	State Longhorn D14-11-12XRLNB	(b) (9)		Technical infeasibility under 60.5375a(a)(3)	12/27/2017	N/A	Significant distance to nearest gathering	DCP Gathering line	5.5 miles away	Right of way right of use	Gas is used for onsite fuel, however more gas is produced than can be used onsite	N/A	N/A	N/A
05123447030	Longhorn U-10	Longhorn V41-10-9XRLNB			Technical infeasibility under 60.5375a(a)(3)	6/26/2018	N/A	Significant distance to nearest gathering	DCP Gathering line	4.69 miles away	Right of way right of use	Gas is used for onsite fuel, however more gas is produced than can be used onsite	N/A	N/A	N/A
05123458040	Mustang 12-26	Mustang V41-27-28XRLNB			Technical infeasibility under 60.5375a(a)(3)	3/26/2018	N/A	Significant distance to nearest gathering	DCP Gathering line	2.25 miles away	Right of way right of use	Gas is used for onsite fuel, however more gas is produced than can be used onsite	N/A	N/A	N/A
05123447000	Mustang 14-26	Mustang D14-26-25XRLNB			Technical infeasibility under 60.5375a(a)(3)	4/9/2018	N/A	Significant distance to nearest gathering	DCP Gathering line	2.58 miles away	Right of way right of use	Gas is used for onsite fuel, however more gas is produced than can be used onsite	N/A	N/A	N/A
05123460010	Mustang 42-34	Mustang V41-34-33XRLNB			Technical infeasibility under 60.5375a(a)(3)	5/18/2018	N/A	Significant distance to nearest gathering	DCP Gathering line	3.17 miles away	Right of way right of use	Gas is used for onsite fuel, however more gas is produced than can be used onsite	N/A	N/A	N/A
05123447040	Mustang 44-22	Mustang X44-22-21XRLNB			Technical infeasibility under 60.5375a(a)(3)	3/19/2018	N/A	Significant distance to nearest gathering	DCP Gathering line	1.86 miles away	Right of way right of use	Gas is used for onsite fuel, however more gas is produced than can be used onsite	N/A	N/A	N/A
05123458030	Mustang U-22	Mustang B11-23-24XRLNB			Technical infeasibility under 60.5375a(a)(3)	4/2/2018	N/A	Significant distance to nearest gathering	DCP Gathering line	1.23 miles away	Right of way right of use	Gas is used for onsite fuel, however more gas is produced than can be used onsite	N/A	N/A	N/A
05123447020	Mustang Y-34	Longhorn V41-3-4XRLNB			Technical infeasibility under 60.5375a(a)(3)	6/4/2018	N/A	Significant distance to nearest gathering	DCP Gathering line	3.76 miles away	Right of way right of use	Gas is used for onsite fuel, however more gas is produced than can be used onsite	N/A	N/A	N/A
05123416140	State Seventy Holes J-18	State Seventy Holes J-18			Technical infeasibility under 60.5375a(a)(3)	11/9/2016	N/A	Significant distance to nearest gathering	DCP Gathering line	3 miles away at 40.305881 latitude, -104.415327 longitude	Right of way right of use	Gas is used for onsite fuel, however more gas is produced than can be used onsite	N/A	N/A	N/A

Reciprocating Compressor Affected Facilities

§60.5420a(b)(4)

Physical location name	Equipment ID or AIRS Point	Operations Tracking 60.5420a(b)(4)(i)				Potential Deviations To Report? (If Deviations Occurred Put an 'X'. If not leave blank)
		How are you tracking Operations? (Hours or Months)	Actual Time Reported	What is the start date?	What determined start date? (startup or rod packing replacement whichever is later)	
Antelope CPF 13-21	GLE E-06 (removed 3/27/18)	Months	9.5	6/12/17	Startup	
Antelope CPF 13-21	E-08 GLE	Months	6.7	1/12/18	Startup	
Antelope CPF 13-21	E-10 Dual	Months	3.8	4/8/18	Startup	
Antelope CPF 13-21	E-11 Dual	Months	1.4	6/21/18	Startup	
Antelope Section 19 CS	CLE E-10	Months	7.4	12/20/17	Startup	
Antelope Section 19 CS	CLE E-11	Months	3.6	4/16/18	Startup	
Antelope Section 19 CS	CLE E-12	Months	2.5	5/18/18	Startup	
Pronghorn 24-7 Booster Station	CLE E-11	Months	1.5	6/18/18	Startup	
Pronghorn 24-7 Booster Station	CLE E-12	Months	0.9	7/6/18	Startup	
State Antelope CPF O-1	GLE E-04 (removed 4/16/18)	Months	9.6	6/29/17	Startup	
State Antelope CPF O-1	GLE E-06	Months	3.6	4/16/18	Startup	
State North Platte CPF 42-26	C-2703	Months	8.6	11/15/17	Startup	
State North Platte CPF 42-26	C-2705	Months	1.7	6/11/18	Startup	
State Pronghorn CPF 41-32	E-11 CLE	Months	4.2	3/28/18	Startup	
State Pronghorn CPF 41-32	E-12 CLE	Months	0.3	7/25/18	Startup	

Pneumatic Pump Affected Facilities

§60.5420a(b)(8)

Physical location name	Equipment ID or AIRS Point	Control Device 60.5420a(b)(8)(i)			Control Device 60.5420a(b)(8)(ii)			Comments	Potential Deviations To Report? (If Deviations Occurred Put an 'X'. If not leave blank)
		Was the pneumatic pump constructed, modified, or reconstructed during the reporting period?	Which condition does the pneumatic pump meet?	Percent Emission Reduction	Pump Previously reported?	Pump Previously reported Date	Control Device Status Change since previously reported		
Seventy Holes 24-5	P-01	No	(C) Emissions from the pneumatic pump are routed to a control device or process.	95%	Yes	10/30/17	N/A		
Seventy Holes J-F-5HZ	P-02 AOS	No	(C) Emissions from the pneumatic pump are routed to a control device or process.	95%	Yes	10/30/17	N/A		
State Antelope 11-13HZ	P-01	No	(C) Emissions from the pneumatic pump are routed to a control device or process.	95%	Yes	10/30/17	N/A		
State Antelope 11-14-1HZ	P-01	No	(C) Emissions from the pneumatic pump are routed to a control device or process.	95%	Yes	10/30/17	N/A		
State Antelope 11-14-1HZ	P-02	No	(C) Emissions from the pneumatic pump are routed to a control device or process.	95%	Yes	10/30/17	N/A		
State Antelope 14-24	P-03	Constructed	(C) Emissions from the pneumatic pump are routed to a control device or process.	95%	N/A	N/A	N/A		

State Antelope 14-24 Production Facility

Storage Tank Emission Design Report

Name	Description of Review	Company	Job Function	Date
(b) (6) [redacted]	Completion of VCS Design Analysis	SLR	Engineer/Scientist Model Analysis	6/1/2018
	Verification of Modeling Guideline Application; Review of VCS Design Analysis	SLR	P.E. Certification and review of Model Analysis	6/18/2018
	Records QAQC of Field Equipment Inputs	SLR	Engineer/Scientist reviewing field equipment to digital records	5/23/2018
	On-site QAQC of Field Equipment Inputs	BCEI	Field Environmental Manager reviewing field equipment for accuracy	5/23/2018
	Operations QAQC of Field Equipment Inputs	BCEI	Operations Superintendent/Manager reviewing field equipment for accuracy	5/25/2018
	Document Review to ensure PPIVFR and capacity of VCS applied according to GIA and Modeling Guideline	BCEI	BCEI Engineer verifying GIA and Modeling Guideline correctly applied to site	6/21/2018
	Required Corrective Action? ☒Yes ☐No		Corrective Action Deadline:	6/30/2018

CONFIDENTIAL BUSINESS INFORMATION

State Antelope 14-24 Production Facility

Storage Tank Emission Model Results

CONFIDENTIAL BUSINESS INFORMATION

Storage Tank Emissions Design Model
Write Up

Site Name:	**State Antelope 14-24 Production Facility (COGCC #428055)**
Client Name:	**Bonanza Creek Energy Operating Company, LLC**
Location:	**SWSW Sec 24 T 5N R 62W ([redacted]**
Revision:	**Baseline, Run 2**

Facility and Process Flow Description:

The State Antelope 14-24 Production Facility (COGCC #428055) is an oil and gas production facility located in Weld County, Colorado. The three (3) wells on site produce through separators. Liquid from the separators is routed directly to the storage vessels. Gas from the storage tanks is directed through a vapor collection system (VCS) to an enclosed flare for control. Oil and water is loaded out of the facility via truck. The storage tank battery consists of four (4) 400 bbl., six (6) 500 bbl. oil storage tanks, two (2) 400 bbl. and one (1) 300 bbl. produced water storage tanks. The tanks are controlled by one (1) LEED 48" enclosed combustors. Additional sources to the vapor collection system are as follows;

- LP Separator Gas
- (2) Sandpiper G1F Pne. Pump
- (1) Compressor Scrubber Liquids

Inputs:

- All "Tee" fittings are conservatively assumed to be "Tee Run to Branch"
- A safety factor of 20% was applied to the low pressure separator gas flow rate to be conservative

Key Parameters

The results show the system is designed to operate without venting based on the inputs received. The maximum predicted tank pressure is expected to be 11.69 oz/in2.

Critical facility parameters and equipment to be maintained:

- Total combined liquid volume stored (oil and water) in the storage tanks tied into the VCS must be no more than 4,371 barrels
- The separators must have high pressure separator operating at or below 200 psig and the low pressure separator operating at or below 50 psig
- Low pressure separator water and oil liquid level control valves must have a flow coefficient (Cv) of 21.25 gpm/psi or less (For Kimray High Pressure Motor Valves (HPMV) the valve must be 2" or smaller with a 1" or smaller valve trim)
- Tanks with following EVIN numbers; 220147, 220148, 220149, 220150, 220151, 220152, 115614, 115615, 115616, 115617, 1260, 1261, and 1129 must have thief hatches set to relieve at 16 oz/in2 or higher and storage tank pressure relief devices set to relieve at 14 oz/in2 or higher

Storage Tank Emissions Design Model
Write Up

Site Name:	**State Antelope 14-24 Production Facility (COGCC #428055)**
Client Name:	**Bonanza Creek Energy Operating Company, LLC**
Location:	**SWSW Sec 24 T 5N R 62W** (b) (9) [redacted]
Revision:	**Baseline, Run 2**

Reassessment Triggers:

Potential changes to the facility equipment or operations should be reviewed to determine if a revised VCS engineering design analysis is required. And, if required, conduct such an analysis. Examples of changes which may affect the VCS engineering design analysis include:

- Removal of a storage tank or tanks from service or a replacement of tank with a tank of smaller capacity
- Change in make, model, or set point of thief hatch or storage tank pressure relief device
- Removal of a control device or replacement with a non-like kind control device
- Addition of a waste gas management system to a control device that does not currently have one installed
- Increase in the waste gas management system on and off set points for control devices with such systems installed
- Increase in the number of fittings and length or a decrease in the diameter of the vapor collection system piping
- Addition of an in-line vent valve
- Increase in oil or water production through existing equipment (examples include addition of a new well and re-fracturing, re-stimulating, or addition of an artificial lift system to an existing well)
- Increase in separator maximum operating pressures
- Change in make, model, size, or trim of oil or water liquid level control valves
- Addition of a vapor or liquid source into the system

Tank Battery Storage Capacity	
Days of Oil Storage	42.5
Days of Water Storage	55.4

Engineering Analysis Performed by:	(b) (6) [redacted]
Engineering Analysis Completion Date:	6/1/2018
Engineering Analysis Reviewed by:	(b) (6) [redacted]
Engineering Analysis Review Date:	6/5/2018

Storage Tank Emissions Design Model
Professional Engineer Certification [40 CFR §60.5411a(d)(1)(i)]

Site Name:	**State Antelope 14-24 Production Facility (COGCC #428055)**
Client Name:	**Bonanza Creek Energy Operating Company, LLC**
Location:	**SWSW Sec 24 T 5N R 62W ([redacted](b)**
Revision:	**Baseline, Run 2**

I certify the closed vent system design and capacity assessment was prepared under my direction or supervision. I further certify the closed vent system design and capacity assessment was conducted and this report was prepared pursuant to the requirements of subpart OOOOa of 40 CFR part 60. Based on my professional knowledge and experience, and inquiry of personnel involved in the assessment, the certification submitted herein is true, accurate, and complete. I am aware there are penalties for knowingly submitting false information.

(b) (6) [redacted]
Name of Professional Engineer

(b) (6) [redacted]
State Registration No.

Colorado
State

Professional Engineer's Seal

Storage Tank Emissions Design Model
Professional Engineer Certification

Site Name:	**State Antelope 14-24 Production Facility (COGCC #428055)**
Client Name:	**Bonanza Creek Energy Operating Company, LLC**
Location:	**SWSW Sec 24 T 5N R 62W** (b) (9) [redacted]
Revision:	**Baseline, Run 2**

I certify the storage tank and air pollution control equipment engineering design analysis was prepared under my direction or supervision. I further certify the storage tank and air pollution control equipment is designed to operate without venting except for that reasonably required for maintenance, gauging, or safety of personnel and equipment which inherently includes reasonably foreseeable fluctuations in emissions of volatile organic compounds. Based on my professional knowledge and experience, and inquiry of personnel involved in the assessment, the certification submitted herein is true, accurate, and complete.

(b) (6) [redacted]

Name of Professional Engineer

(b) (6) [redacted]

State Registration No.

Colorado

State

Professional Engineer's Seal

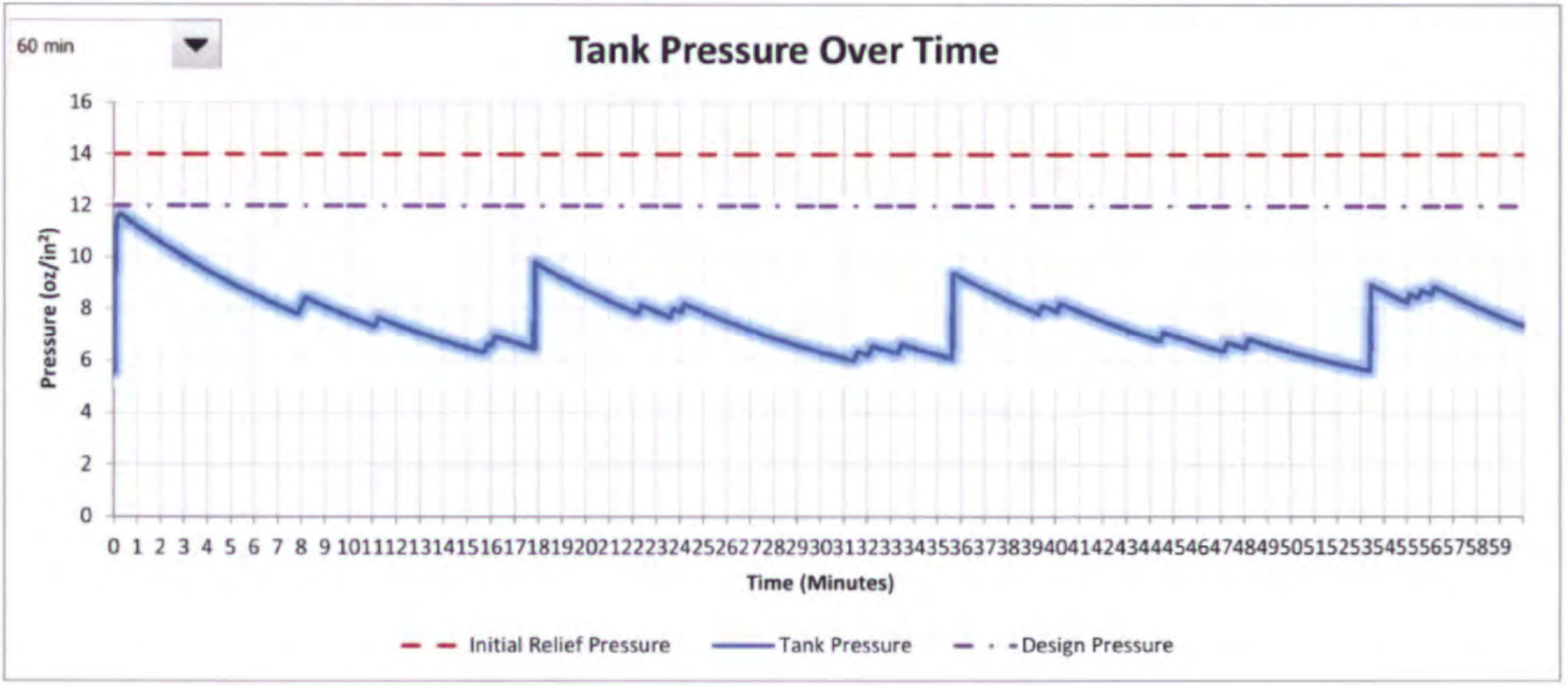
Storage Tank Emissions Design Model
Output

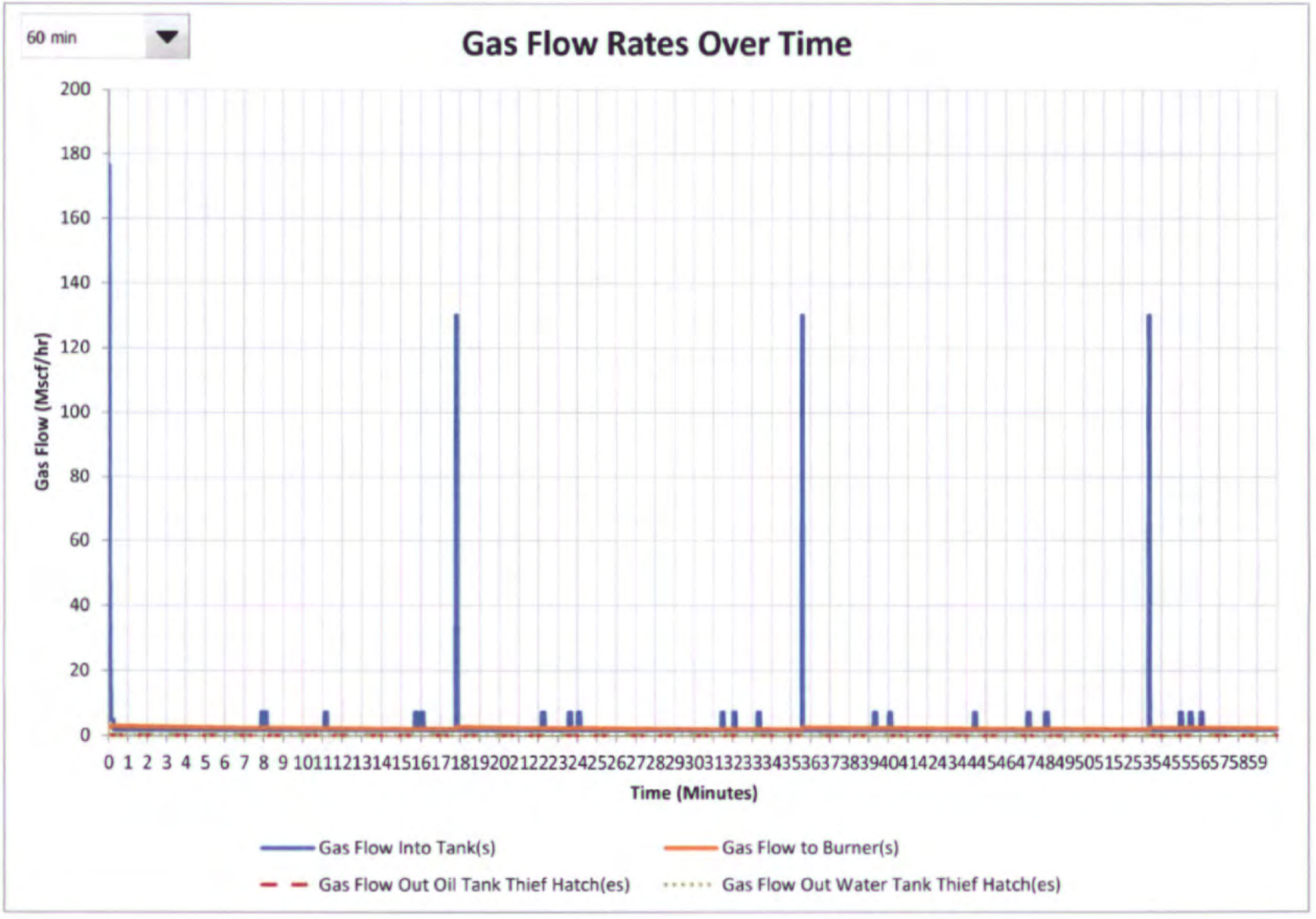
Site Name: State Antelope 14-24 Production Facility (COGCC #428055)
Client Name: Bonanza Creek Energy Operating Company, LLC
Location: SWSW Sec 24 T 5N R 62W (b) (9) [redacted]
Revision: Baseline, Run 2

Peak Instantaneous Flow Rate	
Oil Tank Flash (scfh)	169,424
Water Tank Flash (scfh)	272
Working (scfh)	4,451
Breathing (scfh)	41
Other Sources (scfh)	1,558
Total (scfh)	175,747

System Capacity at Design Pressure	
Burner Capacity (scfh)	2,927
Vent Valve Capacity (scfh)	N/A
Surge Capacity (scfh)	177,417
Total (scfh)	180,344
Peak Tank Pressure (oz/in^2)	11.69

System Capacity at Relief Pressure	
Burner Capacity (scfh)	3,135
Vent Valve Capacity (scfh)	N/A
Surge Capacity (scfh)	207,266
Total (scfh)	210,402
Gas Flow Rate to Atm. (scfh)	0




60 min
Gas Flow Rates Over Time
Gas Flow (Mscf/hr)
200
180
160
140
120
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59
Time (Minutes)
Gas Flow Into Tank(s)
Gas Flow to Burner(s)
Gas Flow Out Oil Tank Thief Hatch(es)
Gas Flow Out Water Tank Thief Hatch(es)

Storage Tank Emissions Design Model
Inputs

Site Name:	**State Antelope 14-24 Production Facility (COGCC #428055)**
Client Name:	**Bonanza Creek Energy Operating Company, LLC**
Location:	**SWSW Sec 24 T 5N R 62W** (b) (9)
Revision:	**Baseline, Run 2**

Tank Info:

	Tanks 1	Tanks 2	Tanks 3	Tanks 4
# of Oil Tanks	6	4		
Oil Tank Height (ft)	25	20		
Oil Tank Diameter (ft)	12	12		
Oil Tank Max Liquid Height (%)	86%	45%		

	Tanks 5	Tanks 6	Tanks 7	Tanks 8
# of Water Tanks	2	1		
Water Tank Height (ft)	20	15		
Water Tank Diameter (ft)	12	12		
Water Tank Max Liquid Height (%)	93%	100%		

Model Resolution	1.0 sec

Oil Tank Thief Hatch and PRD
Enardo ES 660 at 16 osi set point
Wellmark PRD at 14 osi set point

Water Tank Thief Hatch and PRD
Enardo ES 660 at 16 osi set point
Wellmark PRD at 14 osi set point

Design Pressure
12 oz/in2

Tank Starting Pressure*
6 oz/in2

*Will be calculated by model if left blank

Working and Breathing Loss Info:

	Tanks 1	Tanks 2	Tanks 3	Tanks 4
Sales Oil Reid Vapor Pressure (psi)	8.13	8.13		
MW of W&B Vapors (lb/lb-mole)	50.0	50.0		

Oil Production and Scrubber Discharge Info:

	Vessel 1	Vessel 2	Vessel 3	2nd Stage	3rd Stage	Vessel 6	Vessel 7	Vessel 8	Vessel 9
Production Rate (bbl/day)	18.22	25.74	25.25	1.40	7.50				
Peak Instantaneous Flow Rate (gpm)	42.6	42.6	42.6	38.9	77.8				
Dump Duration (sec)	8.30	8.30	8.30	6.00	3.00				
Dump Volume (gal)									
Flow Type (Wave Form)	Snap Acting	Snap Acting	Snap Acting	Snap Acting	Snap Acting				

Oil and Scrubber Discharge Flash Gas Info:

	Vessel 1	Vessel 2	Vessel 3	2nd Stage	3rd Stage	Vessel 6	Vessel 7	Vessel 8	Vessel 9
Flash Factor (scf/bbl)	81.5	81.5	81.5	478.4	1151.3				
Flash Gas MW (lb/lb-mole)	49.8	49.8	49.8	45.9	48.6				

Water Production Info:

	Vessel 1	Vessel 2	Vessel 3	Vessel 4	Vessel 5	Vessel 6	Vessel 7	Vessel 8	Vessel 9
Production Rate (bbl/day)	4.52	6.95	7.41						
Peak Instantaneous Flow Rate (gpm)	126.9	126.9	126.9						
Dump Duration (sec)	16.60	16.60	16.60						
Dump Volume (gal)									
Flow Type (Wave Form)	Snap Acting	Snap Acting	Snap Acting						

Water Flash Gas Info:

	Vessel 1	Vessel 2	Vessel 3	Vessel 4	Vessel 5	Vessel 6	Vessel 7	Vessel 8	Vessel 9
Flash Factor (scf/bbl)	0.5	0.5	0.5						
Flash Gas MW (lb/lb-mole)	33.5	33.5	33.5						

Vapor Collection System Information:

	Sch 40 Pipe Size, Nominal	# of Lines	Pipe Length (ft)	Number of Fittings: 90° elbow	45° elbow	Tee Run	Tee R to B	Tee B to R	Ball Valve	Lift Check Valve	Butterfly Valve
Section 1: Tanks to K.O. Drum	4"	1	233	11			14				
Section 2: K.O. Drum to Burner Header	4"	1	116	1	1		3		1		
Section 3: Header to Burner Model 1 Inlet	2"		5								
Section 4: Header to Burner Model 2 Inlet											

Assume VCS has Liquids in Line(s)? **No**

Percentage of Line Full of Liquids

Inline Vent Valve Make/Model/Size/Setpoint: **No Vent Valve**

Control Device Information:

	Burner Model 1	Burner Model 2	Burner Model 3	Burner Model 4
Control Device Make/Model	**Leed 48" w/ 2791 Btu/scf Gas**			
Number of Units Used	**1**			
Flame Arrestor Make/Model/Size	**Wenco 700-TIL-402-D**			
Waste Gas Management System Used?	**No**			

Other Vapor Sources:

	Source 1	Source 2	Source 3	Source 4
Source Type	**Pneumatic Device**	**Separator Gas**		
Description	**(2) Sandpiper G1F Pneu Pumps**	**LP Separator Gas**		
Peak Vapor Flow Rate (scfh)	**1200**	**358**		
Vapor MW (lb/lb-mole)	**23**	**34**		
Event Duration (seconds)	**3600**	**3600**		
Time Between Events (seconds)	**0**	**0**		

Attachment A:

Site Specific Field Data

Site Name: State Antelope 14-24
Client Name: Bonanza Creek Energy Inc
Location: State Antelope 14-24

Oil Tanks							
Number	Capacity (bbl)	Height (ft)	Diameter (ft)	Max Liquid Height ft) from bottor	Tanks Controlled? (Yes/No)	Tanks Banked (Yes/No)	Describe
6	500	25	12	21-6	yes	no	
4	400	20	12	18-6	yes	no	

Oil Tank Thief Hatch			Oil Tank Pressure Relief Device		
Make	Model	Setpoint (oz/in2)	Make	Model	Setpoint (oz/in2)
enardo	ES-660 X4	16	wellmark		14
enardo	660 X6	16			

Water Tanks							
Number	Capacity (bbl)	Height (ft)	Diameter (ft)	Max Liquid Height (ft)	Tanks Controlled? (Yes/No)	Tanks Banked (Yes/No)	Describe
2	400	20	12	18-6	yes	no	
1	300	15	12	15	yes	no	

Water Tank Thief Hatch			Water Tank Pressure Relief Device		
Make	Model	Setpoint (oz/in2)	Make	Model	Setpoint (oz/in2)
enardo	660 X3	16	wellmark		14

Vapor Collection System (VCS)								
Pipe Section Description (From / To)	Nominal Pipe Diameter (in)	Pipe Length (ft)	Number of Fittings					
			90° Elbows	45° Elbows	Tees	Butterfy Valves	Ball Valves	Lift Check Valves
OT to Tee	4"	30'			3			
tee up to 90	4"	7'	1		3			
90 to tee	4"	45'	2					
crossover	4"	22'	2					
tee to 90	4"	45'	1		3			
90 down to tee	4"	7'			1			
90 to 90	4"	45'	1		3			
90 down to water tank	4"	7'						
WT to 90	4"	8'	1		1			
90 down to KO pot	4"	15'	1					
90 over to 2nd KO pot	4"	2'	2					
KO pot pot to ECDs	4"	116'	1	1	3		1	

Site Name: State Antelope 14-24
Client Name: Bonanza Creek Energy Inc
Location: State Antelope 14-24

VCS Inline Vent Valve			
Make	Model	Size	Setpoint (oz/in2)
N/A			

Emissions Control Device			
Make	Model	Number of Units	
Leed	HOC-48	2	1 in service, 1 is currently locked out
Cimarron	60"	1	Currently locked out

Flame Arrestor			
Make	Model	Size	Applicable to which ECD?
wenco	D-31-C	3"	Cimarron
wenco	D-31-C	2"	Leed's

Burner Management System		
Controlled by Tank or Burner Inlet Pressure?	On Setpoint (oz/in^2)	Off Setpoint (oz/in^2)
N/A		

Other Controlled Sources[6]						
Describe	Peak Instanteous Vapor Flow Rate (scfh)	Vapor MW (lb/lb-mole)	Vapor LHV (btu/scf)	Event Duration (seconds)	Time Between Events (seconds)	Notes/Source
(2) Sandpiper G1F Pneu Pump	See Section 5.2 of Rev-2.5 Global Inputs and Assumptions Document					
(1) Compressor Scrubber Liquids	See Section 5.4, Case 4 of Rev-2.5 Global Inputs and Assumptions Document					
LP Separator Gas	See Section 5.1 of Rev-2.5 Global Inputs and Assumptions Document					

[6]Include other sources are or may be drected to the same vapor collection and control system as the tanks. Examples include truck
Examples include truck loading vapor return lines, pneumatic pumps, blowdowns, etc.

	Low Pressure Separator Oil Information									
	Oil Dump Valve Valve Make and Model	Oil Dump Valve Size (inches)	Oil Dump Valve Trim Size (inches)	Oil Level HH Set Point* (inches)	Oil Low Level Set Point* (inches)	Oil leg Diameter (inches)	Oil leg Length (inches)	Vertical or Horizontal?	Oil Critical Pressure (psia)	Oil Specific Gravity (water = 1)	Vessel Maximum Operating (psig)
Separator 1	kimray	2"	1"	See Table 1 "LP Sep to Tanks (HP Sep @ 200 psig)" and Section 2.1 of Rev-2.5 Global Inputs and Assumptions Document							
Separator 2	kimray	2"	1"	See Table 1 "LP Sep to Tanks (HP Sep @ 200 psig)" and Section 2.1 of Rev-2.5 Global Inputs and Assumptions Document							
Separator 3	kimray	2"	1"	See Table 1 "LP Sep to Tanks (HP Sep @ 200 psig)" and Section 2.1 of Rev-2.5 Global Inputs and Assumptions Document							

*From Bottom of vessel

	Low Pressure Separator Water Information										
	Water Dump Valve Valve Make and Model	Water Dump Valve Size (inches)	Water Dump Valve Trim Size (inches)	Water Level HH Set Point* (inches)	Water Low Level Set Point* (inches)	Water leg Diameter (inches)	Water leg Length (inches)	Vertical or Horizontal?	Water Critical Pressure (psia)	Water Specific Gravity (water = 1)	Vessel Maximum Operating (psig)
Separator 1	kimray	2"	1"	See Section 1.5 and 2.1 of Rev-2.5 Global Inputs and Assumptions Document							
Separator 2	kimray	2"	1"	See Section 1.5 and 2.1 of Rev-2.5 Global Inputs and Assumptions Document							
Separator 3	kimray	2"	1"	See Section 1.5 and 2.1 of Rev-2.5 Global Inputs and Assumptions Document							

*From Bottom of vessel

WELL	Vessel # in model	Daily Oil Production (bbl/day)[1]	Daily Water Production (bbl/day)[1]
State Antelope 14-11-24HZ	1	18.22	4.52
Total		**18.22**	**4.52**
State Antelope J-F-24HNB	2	25.74	6.95
Total		**25.74**	**6.95**
State Antelope J14-F11-24HNB	3	25.25	7.41
Total		**25.25**	**7.41**

[1]Daily oil and water production rates calculated from monthly production rates and operating hours

Attachment B:

Storage Tank Emission Model Results for Inadequate Design

CONFIDENTIAL BUSINESS INFORMATION

REVISION HISTORY TABLE

Site Name: **State Antelope 14-24 Production Facility (COGCC #428055)**

Location: **SWSW Sec 24 T 5N R 62W** [redacted]

Date	Version	Pass/Fail?	Suggested Modifications/Changes from previous model run
6/1/2018	Baseline, Run 1	Fail	Max tank pressure shows 14.69 oz/in2. SLR recommends following modifications to site; 1.Max liquid volume in the tanks shall not exceed 4,371 bbl (Facilty crossover is at 5,137 bbl). This results in max tank pressure of 11.69 oz/in2.
6/1/2018	Baseline, Run 2	Pass	Bonanza implemented administrative controls to keep liquid levels below 4,371 bbl, model was updated to reflect this change.

Storage Tank Emissions Design Model
Output

Site Name: State Antelope 14-24 Production Facility (COGCC #428055)
Client Name: Bonanza Creek Energy Operating Company, LLC
Location: SWSW Sec 24 T 5N R 62W (b) (6)
Revision: Baseline, Run 1

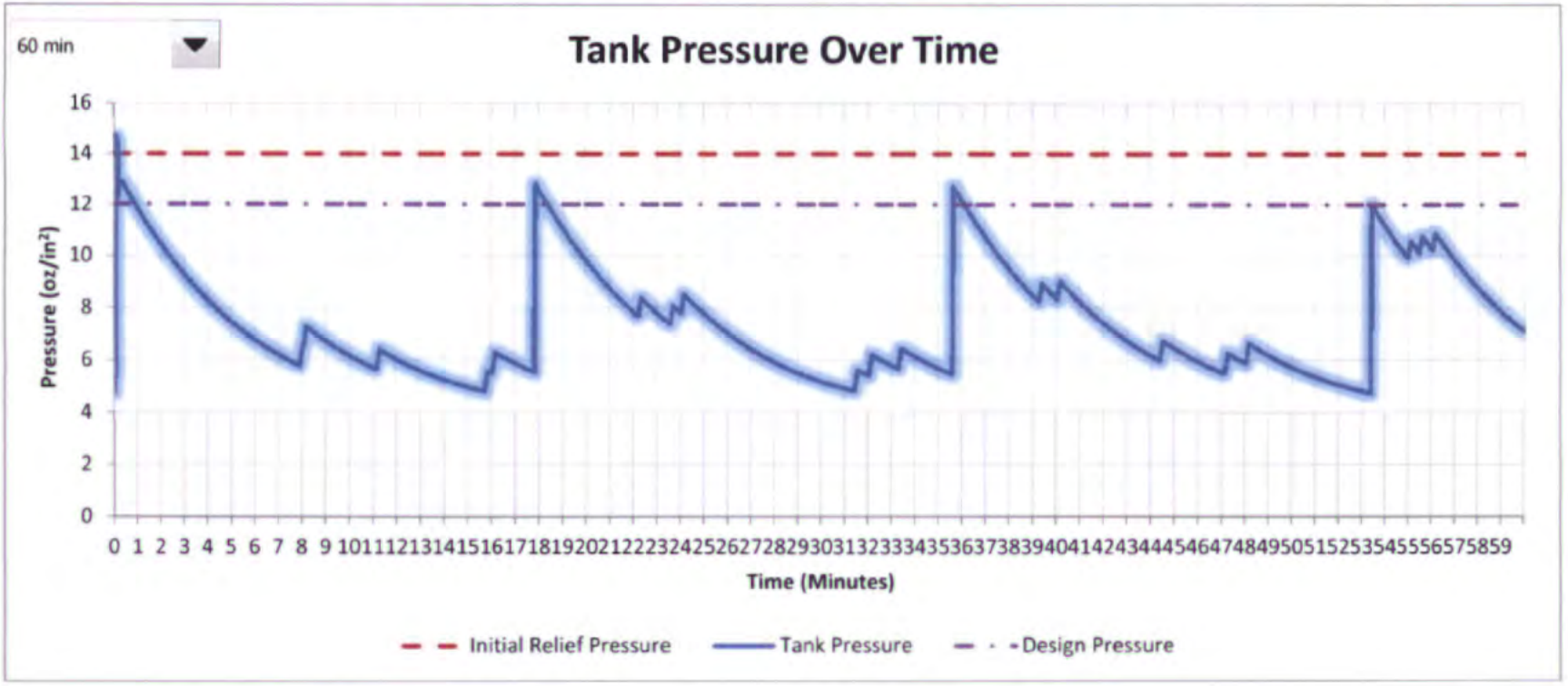
Peak Instantaneous Flow Rate	
Oil Tank Flash (scfh)	169,424
Water Tank Flash (scfh)	272
Working (scfh)	4,513
Breathing (scfh)	41
Other Sources (scfh)	1,558
Total (scfh)	175,808

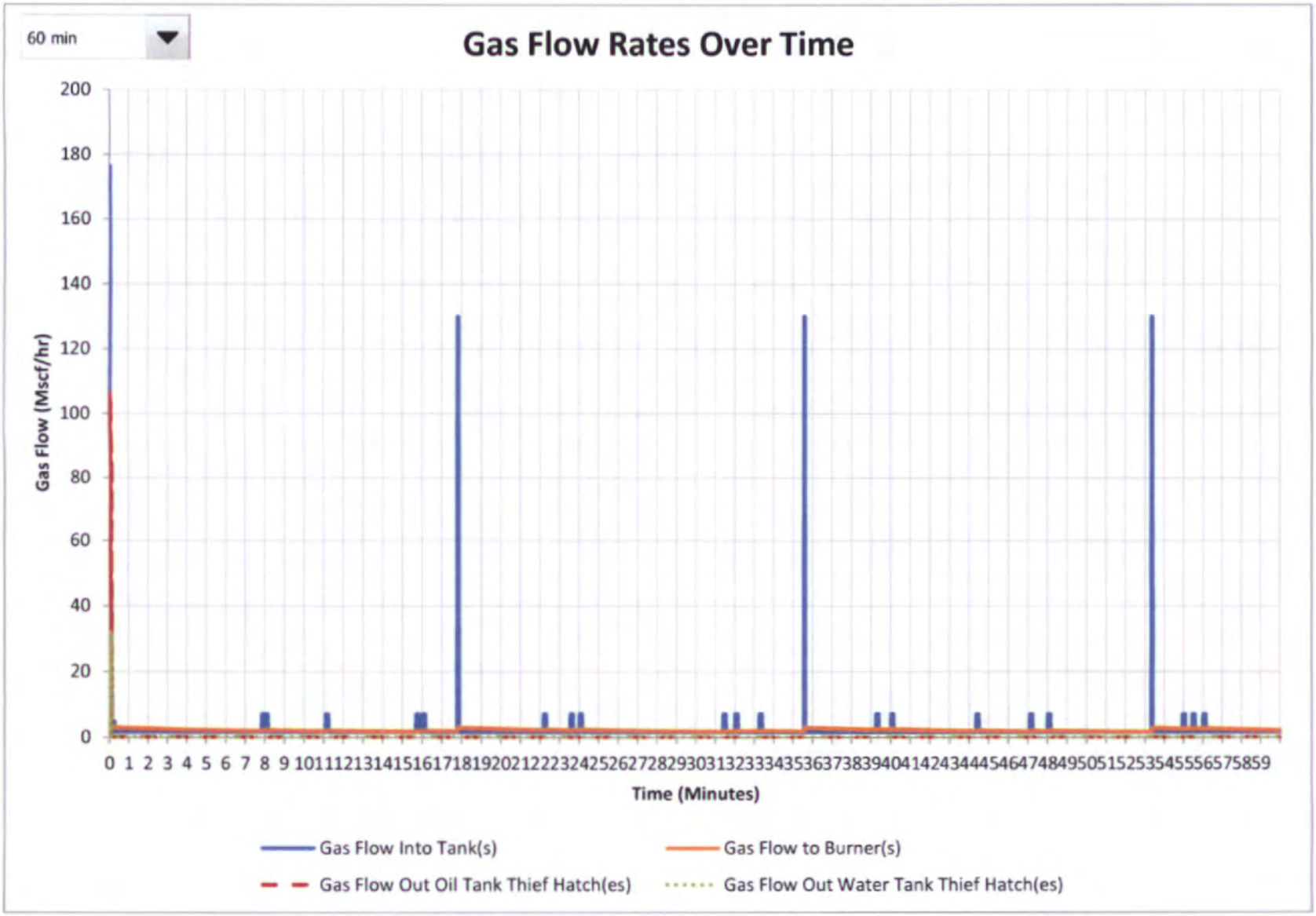
System Capacity at Design Pressure	
Burner Capacity (scfh)	2,927
Vent Valve Capacity (scfh)	N/A
Surge Capacity (scfh)	172,805
Total (scfh)	175,732

Peak Tank Pressure (oz/in^2)	14.69

System Capacity at Relief Pressure	
Burner Capacity (scfh)	3,135
Vent Valve Capacity (scfh)	N/A
Surge Capacity (scfh)	172,597
Total (scfh)	175,732

Gas Flow Rate to Atm. (scfh)	76




60 min
Gas Flow Rates Over Time
Gas Flow (Mscf/hr)
200
180
160
140
120
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59
Time (Minutes)
Gas Flow Into Tank(s)
Gas Flow to Burner(s)
Gas Flow Out Oil Tank Thief Hatch(es)
Gas Flow Out Water Tank Thief Hatch(es)

Storage Tank Emissions Design Model
Inputs

Site Name:	**State Antelope 14-24 Production Facility (COGCC #428055)**
Client Name:	**Bonanza Creek Energy Operating Company, LLC**
Location:	**SWSW Sec 24 T 5N R 62W** (b) (9)
Revision:	**Baseline, Run 1**

Tank Info:

	Tanks 1	Tanks 2	Tanks 3	Tanks 4
# of Oil Tanks	6	4		
Oil Tank Height (ft)	25	20		
Oil Tank Diameter (ft)	12	12		
Oil Tank Max Liquid Height (%)	86%	93%		

	Tanks 5	Tanks 6	Tanks 7	Tanks 8
# of Water Tanks	2	1		
Water Tank Height (ft)	20	15		
Water Tank Diameter (ft)	12	12		
Water Tank Max Liquid Height (%)	93%	100%		

Model Resolution	1.0 sec

Oil Tank Thief Hatch and PRD
Enardo ES 660 at 16 osi set point
Wellmark PRD at 14 osi set point

Water Tank Thief Hatch and PRD
Enardo ES 660 at 16 osi set point
Wellmark PRD at 14 osi set point

Design Pressure
12 oz/in2

Working and Breathing Loss Info:

	Tanks 1	Tanks 2	Tanks 3	Tanks 4
Sales Oil Reid Vapor Pressure (psi)	8.13	8.13		
MW of W&B Vapors (lb/lb-mole)	50.0	50.0		

Tank Starting Pressure*
5 oz/in2

*Will be calculated by model if left blank

Oil Production and Scrubber Discharge Info:

	Vessel 1	Vessel 2	Vessel 3	2nd Stage	3rd Stage	Vessel 6	Vessel 7	Vessel 8	Vessel 9
Production Rate (bbl/day)	18.22	25.74	25.25	1.40	7.50				
Peak Instantaneous Flow Rate (gpm)	42.6	42.6	42.6	38.9	77.8				
Dump Duration (sec)	8.30	8.30	8.30	6.00	3.00				
Dump Volume (gal)									
Flow Type (Wave Form)	Snap Acting	Snap Acting	Snap Acting	Snap Acting	Snap Acting				

Oil and Scrubber Discharge Flash Gas Info:

	Vessel 1	Vessel 2	Vessel 3	2nd Stage	3rd Stage	Vessel 6	Vessel 7	Vessel 8	Vessel 9
Flash Factor (scf/bbl)	81.5	81.5	81.5	478.4	1151.3				
Flash Gas MW (lb/lb-mole)	49.8	49.8	49.8	45.9	48.6				

Water Production Info:

	Vessel 1	Vessel 2	Vessel 3	Vessel 4	Vessel 5	Vessel 6	Vessel 7	Vessel 8	Vessel 9
Production Rate (bbl/day)	4.52	6.95	7.41						
Peak Instantaneous Flow Rate (gpm)	126.9	126.9	126.9						
Dump Duration (sec)	16.60	16.60	16.60						
Dump Volume (gal)									
Flow Type (Wave Form)	Snap Acting	Snap Acting	Snap Acting						

Water Flash Gas Info:

	Vessel 1	Vessel 2	Vessel 3	Vessel 4	Vessel 5	Vessel 6	Vessel 7	Vessel 8	Vessel 9
Flash Factor (scf/bbl)	0.5	0.5	0.5						
Flash Gas MW (lb/lb-mole)	33.5	33.5	33.5						

Vapor Collection System Information:

	Sch 40 Pipe Size, Nominal	# of Lines	Pipe Length (ft)	Number of Fittings: 90° elbow	45° elbow	Tee Run	Tee R to B	Tee B to R	Ball Valve	Lift Check Valve	Butterfly Valve
Section 1: Tanks to K.O. Drum	4"	1	233	11			14				
Section 2: K.O. Drum to Burner Header	4"	1	116	1	1		3		1		
Section 3: Header to Burner Model 1 Inlet	2"		5								

Assume VCS has Liquids in Line(s)? **No**

Percentage of Line Full of Liquids

Inline Vent Valve Make/Model/Size/Setpoint: **No Vent Valve**

Control Device Information:

	Burner Model 1	Burner Model 2	Burner Model 3	Burner Model 4
Control Device Make/Model	**Leed 48" w/ 2791 Btu/scf Gas**			
Number of Units Used	**1**			
Flame Arrestor Make/Model/Size	**Wenco 700-TIL-402-D**			
Waste Gas Management System Used?	**No**			

Other Vapor Sources:

	Source 1	Source 2	Source 3	Source 4
Source Type	**Pneumatic Device**	**Separator Gas**		
Description	**(2) Sandpiper G1F Pneu Pumps**	**LP Separator Gas**		
Peak Vapor Flow Rate (scfh)	**1200**	**358**		
Vapor MW (lb/lb-mole)	**23**	**34**		
Event Duration (seconds)	**3600**	**3600**		
Time Between Events (seconds)	**0**	**0**		

Fugitive Affected Facilities

§60.5420a(b)(7)

(b) (6)

Facility Name	Fugitive Facility type	Date of Survey (§60.5420a(b)(7)(i))	Survey Begin Time (§60.5420a (b)(7)(ii))	Survey End Time (§60.5420a (b)(7)(iii))	Ambient Temperature During Survey (°F) ((§60.5420a (b)(7)(iv))	Sky Conditions During Survey (§60.5420a (b)(7)(iv))	Maximum Wind Speed During Survey (mph) (§60.5420a (b)(7)(iv))	Monitoring instrument Used (§60.5420a (b)(7)(v))	Deviations From Monitoring Plan (if none, state none.) ((§60.5420a (b)(7)(vi))	Type of Component for which Fugitive Emissions Detected (§60.5420a (b)(7)(vii))	Number of Each Component Type for which Fugitive Emissions Detected (§60.5420a (b)(7)(vii))	Type of Component Not Repaired as Required in (§60.5397a(h) (§60.5420a (b)(7)(viii))	Number of Each Component Type Not Repaired as Required in § 60.5397a(h) (§60.5420a (b)(7)(viii))	Type of Difficult-to-Monitor Components Monitored (§60.5420a (b)(7)(ix))	Number of Each Difficult-to-Monitor Component Type Monitored (§60.5420a (b)(7)(ix))	Type of Unsafe-to-Monitor Component Monitored (§60.5420a (b)(7)(x))	Number of Each Unsafe-to-Monitor Component Type Monitored (§60.5420a (b)(7)(x))	Date of Successful Repair of Fugitive Emissions Component (§60.5420a (b)(7)(xi))	Type of Component Placed on Delay of Repair (§60.5420a (b)(7)(xi))	Number of Each Component Type Placed on Delay of Repair (§60.5420a (b)(7)(xi))	Explanation for Delay of Repair ((§60.5420a (b)(7)(xi))	Type of Instrument Used to Resurvey Repaired Components Not Repaired During Original Survey (§60.5420a (b)(7)(xii))	Potential Deviations To Report? (If Deviations Occurred Put an 'X'. If not leave blank)	OGI: Training and Experience of Surveyor (§60.5420a(b)(7)(xiii))	Compressor Station Affected Facility Only: Was a monitoring survey waived under § 60.5397a(g)(5)? (§60.5420a (b)(7))	Compressor Station Affected Facility Only: If a monitoring survey was waived, the calendar months that make up the quarterly monitoring period for which the monitoring survey was waived. (§60.5420a (b)(7))
Antelope CPF 13-21	Well site/Production facility	3/19/2018	09:22	10:13	37	Partly cloudy	5-10	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Antelope CPF 13-21	Well site/Production facility	11/27/2017	11:37	12:05	68	Clear	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Antelope J-21	Well site/Production facility	3/28/2018	10:42	11:15	46	Cloudy	10-15	FLIR optical gas imaging camera	None	LP Valve	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	05/28/2018	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Antelope J-21	Well site/Production facility	11/27/2017	12:51	13:40	72	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Antelope Section 19 CS	Well site/Production facility	6/15/2018	09:45	11:02	79	Partly cloudy	1-5	FLIR optical gas imaging camera	None	Pneumatic-Int	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	07/06/2018	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Antelope Section 19 CS	Well site/Production facility	6/15/2018	09:45	11:02	79	Partly cloudy	1-5	FLIR optical gas imaging camera	None	HP Other	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	06/15/2018	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Antelope Section 19 CS	Well site/Production facility	7/18/2018	10:33	12:52	75	Clear	1-5	FLIR optical gas imaging camera	None	HP Connector	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	07/24/2018	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Antelope T-21	Well site/Production facility	3/28/2018	08:30	08:50	39	Cloudy	10-15	FLIR optical gas imaging camera	None	LP Valve	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03/28/2018	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Antelope T-21	Well site/Production facility	11/27/2017	12:30	13:00	70	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 6+ years of experience with OGI surveys.	N/A	N/A
Longhorn 14-11	Well site/Production facility	3/12/2018	11:15	11:24	58	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 4+ years of experience with OGI surveys.	N/A	N/A
Mustang 12-26	Well site/Production facility	6/11/2018	10:59	11:07	77	Clear	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 4+ years of experience with OGI surveys.	N/A	N/A
Mustang 14-26	Well site/Production facility	6/11/2018	10:20	10:27	75	Clear	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 4+ years of experience with OGI surveys.	N/A	N/A
Mustang 42-34	Well site/Production facility	6/11/2018	10:47	10:47	75	Clear	1-5	FLIR optical gas imaging camera	None		1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 4+ years of experience with OGI surveys.	N/A	N/A
Mustang 44-22	Well site/Production facility	6/11/2018	11:18	11:26	77	Clear	5-10	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 4+ years of experience with OGI surveys.	N/A	N/A
Mustang U-22	Well site/Production facility	6/11/2018	12:55	12:07	78	Clear	5-10	FLIR optical gas imaging camera	None	HP Connector	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	06/11/2018	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 4+ years of experience with OGI surveys.	N/A	N/A
North Platte 44-13	Well site/Production facility	11/20/2017	09:10	09:45	52	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
North Platte 44-13	Well site/Production facility	3/28/2018	11:48	12:23	62	Cloudy	10-15	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A

Fugitive Affected Facilities

§60.5420a(b)(7)

Facility Name	Fugitive Facility type	Date of Survey (§60.5420a(b)(7)(i))	Survey Begin Time (§60.5420a (b)(7)(ii))	Survey End Time (§60.5420a (b)(7)(ii))	(b) (6)	Ambient Temperature During Survey (°F) ((§60.5420a (b)(7)(iv))	Sky Conditions During Survey (§60.5420a (b)(7)(iv))	Maximum Wind Speed During Survey (mph) (§60.5420a (b)(7)(iv))	Monitoring Instrument Used (§60.5420a (b)(7)(v))	Deviations From Monitoring Plan (If none, state none.) (§60.5420a (b)(7)(vi))	Type of Component for which Fugitive Emissions Detected (§60.5420a (b)(7)(vii))	Number of Each Component Type for which Fugitive Emissions Detected (§60.5420a (b)(7)(vii))	Type of Component Not Repaired as Required in §60.5397a(h) (§60.5420a (b)(7)(viii))	Number of Each Component Type Not Repaired as Required in § 60.5397a(h) (§60.5420a (b)(7)(viii))	Type of Difficult-to-Monitor Components Monitored (§60.5420a (b)(7)(ix))	Number of Each Difficult-to-Monitor Component Type Monitored (§60.5420a (b)(7)(ix))	Type of Unsafe-to-Monitor Component Monitored (§60.5420a (b)(7)(x))	Number of Each Unsafe-to-Monitor Component Type Monitored (§60.5420a (b)(7)(x))	Date of Successful Repair of Fugitive Emissions Component (§60.5420a (b)(7)(xi))	Type of Component Placed on Delay of Repair (§60.5420a (b)(7)(xi))	Number of Each Component Type Placed on Delay of Repair (§60.5420a (b)(7)(xi))	Explanation for Delay of Repair (§60.5420a (b)(7)(xi))	Type of Instrument Used to Resurvey Repaired Components Not Repaired During Original Survey (§60.5420a (b)(7)(xii))	Potential Deviations To Report? (If Deviations Occurred Put an 'Y' if not leave Blank)	OGI Training and Experience of Surveyor (§60.5420a(b)(7)(iii))	Compressor Station Affected Facility Only: Was a monitoring survey waived under § 60.5397a(g)(5)? (§60.5420a (b)(7))	Compressor Station Affected Facility Only: If a monitoring survey was waived, the calendar months that make up the quarterly monitoring period for which the monitoring survey was waived. (§60.5420a (b)(7))
North Platte K-22	Well site/Production facility	7/31/2018	12:10	12:50		88	Clear	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 4+ years of experience with OGI surveys.	N/A	N/A
North Platte T-27	Well site/Production facility	11/13/2017	09:20	09:50		44	Clear	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
North Platte T-27	Well site/Production facility	3/29/2018	10:55	11:55		58	Partly cloudy	5-10	FLIR optical gas imaging camera	None	HP Valve	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	04/03/2018	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
North Platte T-27	Well site/Production facility	3/29/2018	10:55	11:55		58	Partly cloudy	5-10	FLIR optical gas imaging camera	None	LP Valve	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03/29/2018	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Pronghorn D-28	Well site/Production facility	3/27/2018	12:50	12:58		50	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Pronghorn D-28	Well site/Production facility	11/29/2017	13:05	13:08		45	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Pronghorn F-22	Well site/Production facility	11/29/2017	10:30	10:51		59	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Pronghorn F-22	Well site/Production facility	11/29/2017	10:30	10:51		59	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
Pronghorn F-22	Well site/Production facility	3/27/2018	11:30	11:48		50	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
State North Platte CPF 42-26	Well site/Production facility	8/24/2017	08:00	08:40		82	Clear	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 6+ years of experience with OGI surveys.	N/A	N/A
State North Platte CPF 42-26	Well site/Production facility	3/16/2018	10:15	10:40		52	Partly cloudy	10-15	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 4+ years of experience with OGI surveys.	N/A	N/A
State North Platte CPF 42-26	Well site/Production facility	11/27/2017	09:55	10:45		52	Partly cloudy	1-5	FLIR optical gas imaging camera	None	Thief Hatch	1	N/A	N/A	N/A	N/A	N/A	N/A	11/27/2017	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 6+ years of experience with OGI surveys.	N/A	N/A
State North Platte CPF 42-26	Well site/Production facility	11/27/2017	09:55	10:45		52	Partly cloudy	1-5	FLIR optical gas imaging camera	None	LP Connector	1	N/A	N/A	N/A	N/A	N/A	N/A	12/10/2017	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 6+ years of experience with OGI surveys.	N/A	N/A
State North Platte CPF 42-26	Well site/Production facility	11/27/2017	09:55	10:45		52	Partly cloudy	1-5	FLIR optical gas imaging camera	None	Regulator-Cont	1	N/A	N/A	N/A	N/A	N/A	N/A	11/28/2017	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 6+ years of experience with OGI surveys.	N/A	N/A
State North Platte CPF 42-26	Well site/Production facility	11/27/2017	09:55	10:45		52	Partly cloudy	1-5	FLIR optical gas imaging camera	None	Other	1	N/A	N/A	N/A	N/A	N/A	N/A	11/28/2017	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 6+ years of experience with OGI surveys.	N/A	N/A
State North Platte CPF 42-26	Well site/Production facility	11/27/2017	09:55	10:45		52	Partly cloudy	1-5	FLIR optical gas imaging camera	None	Regulator-Cont	1	N/A	N/A	N/A	N/A	N/A	N/A	12/11/2017	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 6+ years of experience with OGI surveys.	N/A	N/A
State North Platte CPF 42-26	Well site/Production facility	11/27/2017	09:55	10:45		52	Partly cloudy	1-5	FLIR optical gas imaging camera	None	Regulator-Cont	1	N/A	N/A	N/A	N/A	N/A	N/A	11/27/2017	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 6+ years of experience with OGI surveys.	N/A	N/A

Fugitive Affected Facilities

§60.5420a(b)(7)

(b) (6)

Facility Name	Fugitive Facility type	Date of Survey (§60.5420a(b)(7)(i))	Survey Begin Time (§60.5420a (b)(7)(ii))	Survey End Time (§60.5420a (b)(7)(iii))	[redacted]	Ambient Temperature During Survey (°F) (§60.5420a (b)(7)(iv))	Sky Conditions During Survey (§60.5420a (b)(7)(v))	Maximum Wind Speed During Survey (mph) (§60.5420a (b)(7)(iv))	Monitoring Instrument Used (§60.5420a (b)(7)(vi))	Deviations From Monitoring Plan (If none, state none.) (§60.5420a (b)(7)(vi))	Type of Component for which Fugitive Emissions Detected (§60.5420a (b)(7)(vii))	Number of Each Component Type for which Fugitive Emissions Detected (§60.5420a (b)(7)(vii))	Type of Component Not Repaired as Required in §60.5397a(h) (§60.5420a (b)(7)(viii))	Number of Each Component Type Not Repaired as Required in § 60.5397a(h) (§60.5420a (b)(7)(viii))	Type of Difficult-to-Monitor Components Monitored (§60.5420a (b)(7)(ix))	Number of Each Difficult-to-Monitor Component Type Monitored (§60.5420a (b)(7)(ix))	Type of Unsafe-to-Monitor Component Monitored (§60.5420a (b)(7)(x))	Number of Each Unsafe-to-Monitor Component Type Monitored (§60.5420a (b)(7)(x))	Date of Successful Repair of Fugitive Emissions Component (§60.5420a (b)(7)(x))	Type of Component Placed on Delay of Repair (§60.5420a (b)(7)(xi))	Number of Each Component Type Placed on Delay of Repair (§60.5420a (b)(7)(xi))	Explanation for Delay of Repair (§60.5420a (b)(7)(xi))	Type of Instrument Used to Resurvey Repaired Components Not Repaired During Original Survey (§60.5420a (b)(7)(xiii))	Potential Deviations To Report? (If Deviations Occurred Put an 'X', if not leave blank)	OGI: Training and Experience of Surveyor (§60.5420a(b)(7)(iii))	Compressor Station Affected Facility Only: Was a monitoring survey waived under § 60.5397a(g)(3)? (§60.5420a (b)(7))	Compressor Station Affected Facility Only: If a monitoring survey was waived, the calendar months that make up the quarterly monitoring period for which the monitoring survey was waived. (§60.5420a (b)(7))
State North Platte F-26	Well site/Production facility	3/15/2018	08:46	09:30		33	Partly cloudy	1-5	FLIR optical gas imaging camera	None	Fitting	1	N/A	N/A	N/A	N/A	N/A	N/A	03/19/2018	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
State Pronghorn CPF 41-32	Well site/Production facility	11/29/2017	12:10	12:40		45	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
State Pronghorn CPF 41-32	Well site/Production facility	11/29/2017	12:10	12:40		45	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
State Pronghorn CPF 41-32	Well site/Production facility	3/27/2018	13:40	14:00		50	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
State Pronghorn V-32	Well site/Production facility	11/29/2017	13:25	13:28		46	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
State Pronghorn V-32	Well site/Production facility	3/27/2018	13:00	13:34		50	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 3+ years of experience with OGI surveys.	N/A	N/A
State Seventy Holes J-18	Well site/Production facility	3/15/2018	11:20	11:35		63		1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 4+ years of experience with OGI surveys.	N/A	N/A
State Seventy Holes J-18	Well site/Production facility	11/27/2017	16:00	16:15		65	Partly cloudy	1-5	FLIR optical gas imaging camera	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FLIR optical gas imaging camera		Trained thermographer; completed course at Infrared Training Center. Has 6+ years of experience with OGI surveys.	N/A	N/A